

Application No. 10/076,976

REMARKS

Claims 18-30 are pending. The summarized claims above are based on the claims in the Amendment of April 11, 2005. Applicants thank the Examiner for the detailed comments in the Advisory Action of April 26, 2005. Here, Applicants respond to the Examiner's comments.

Rejection Under the Enablement Requirement

The Examiner rejected claims 18-30 under 35 U.S.C. §112, first paragraph for lack of enablement. In the Advisory Action of April 26, 2005, the Examiner asked "Why do Applicants adamantly refuse to include the electromagnetic forces in the claim?" With all due respect, Applicants simply do not think that it is appropriate to put forces of nature into a claim over which they have no control, and the claim would be actually much more confusing if the language were added since the language would be taken out of the context provided in the specification. All claims in every subject area assume that the forces of nature are at work. All mechanical claims assume that collective forces between physical objects are at work. These are never recited. Claims that rely on gravity generally do not recite gravity. Applicants have fully described the claimed materials. The fact that Applicants described the forces of nature in the specification does not imply that they control them or should have to recite them in a claim.

Applicants pulled up a random patent as an example. Claim 1 of U.S. 6,543,543 reads (with the underlined material added to the issued claim):

1. A pumping system comprising:
a pump barrel that is adapted to be placed into a well casing;
a plunger reciprocatably positioned within the pump barrel, wherein the plunger has an open top end with a sharpened edge, a bottom end, and a traveling valve at the bottom end;

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a connector coupled to the plunger below the top end, wherein the connector is configured to permit fluids to be moved upwardly through the connector and the plunger upon each down stroke of the plunger due to a pressure differential generated as a result of a change in volume induced by movement of the plunger; and

a rod coupled to the connector, wherein the rod is translatable to reciprocate the plunger within the pump barrel using an upstroke and a downstroke, and wherein the top end of the plunger is adapted to direct particulate into the plunger and away from the pump barrel upon each upstroke.

The underlined material explains why fluid moves in a piston pump in terms of the relevant forces of nature. The Examiner's argument would seem to imply that this language is needed to enable the claim. If this language were missing from the specification of the 6,543,543 patent, presumably under the Examiner's analysis, this patent would be completely invalid for lack of enablement. If the language were present in the specification, then presumably the Examiner would require its addition to the claim to have enablement commensurate with the disclosure. This is simply not reasonable. Of course, we have not added to the claim from the '543 patent all of the forces of nature required to make this pump work. If these forces were added, the claim would expand many fold.

The Examiner seems to maintain that the claims are not enabled for the full scope of the claim. Yet the Examiner has not indicated specifically what possible embodiment is not enabled that is covered by the claim. If the Examiner can explain to Applicants how they can control the forces of nature between particles or what embodiment is being captured within the claim that is not enabled, Applicants would be glad to add language to their claim as requested. Otherwise, with all due respect, Applicants are firmly convinced that the Examiner's request is not appropriate. The claims are fully enabled as written. Adding the language out of the context of the specification is very confusing because all forces between and within atoms and molecules are electromagnetic. Applicants resist making the claim scope confusing. The Examiner's

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argument seems to assert that if Applicants had not put in the words "van der Waals forces and/or other electromagnetic forces" into the specification that the claim would not be enabled at all. Applicants respectfully refuse to acknowledge such a conclusion. Furthermore, stating the words "van der Waals forces and/or other electromagnetic forces" does not enable anyone to do anything. The Examiner has failed to assert a prima facie case for lack of enablement commensurate in scope to the claims.

Rejection Over Wiederhøft et al.

The Examiner rejected claims 22 and 29 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,840,111 to Wiederhøft et al. (the Wiederhøft patent). With all due respect, this analysis has gotten off track. While the Examiner is correct that "the Examiner and the Office" do not have "the authority to declare a patent invalid" (except in the context of an interference or a reexamination), no one is asking for that. Patent validity relates to the claims of the Wiederhøft patent. Applicants have not commented on the claims of the Wiederhøft patent, nor would that be appropriate or relevant. The Examiner and the Office **not only have the right** but have an **obligation** to consider what a reference teaches for the sake of evaluating the patentability of Applicants' claims. **The Examiner and the Office must meet that statutory obligation.**

Applicants have raised issues regarding the meaning of the terminology in the Wiederhøft patent. Applicants assume that the inventors in the Wiederhøft patent accomplished what they claim. However, we need to understand what they have accomplished. The use of terminology in the sol-gel area is recognized to be different than other areas of material science. Particular chemistry takes place in the context of sol-gel reactions. Until recently, the chemical nature of some of the reaction products were not well understood, and even now they may not always be well understood. Sol-gel reactions take place in water, such that hydroxides and/or

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hydrated compositions are often formed. These compositions have strong covalent or metal-ligand bonds involving hydrogen that are only disrupted through heating at high temperatures, where water is driven from the materials. The calcination at high temperatures is irreversible, such that placing the materials in water does not result in a hydrated material unless the compound actually dissolves and the particle structure is lost.

Applicants' claims are interpreted from the perspective of a person of ordinary skill in the art based on their disclosure. Applicants' specification is NOT directed to sol-gel materials of other solution-based synthesis. A person of ordinary skill in the art would have a Ph.D. in chemistry or materials science or related field, and would have experience in flow based materials synthesis. Thus, the metal oxides described in Applicants' application are interpreted by a person of ordinary skill to have a formula, MO_x , where M is the symbol for a metal and x depends on the oxidation state of the metal. The particular claims are directed to TiO_2 . Applicants have presented un-refuted evidence that the materials produced in the Wiederhöft patent are not metal oxides, as specified in Applicants' specification. The Wiederhöft patent simply uses different terminology. Based on the evidence of record, the Wiederhöft patent does not render Applicants' claims obvious.

Applicants respectfully request withdrawal of the rejection of claims 22 and 29 under 35 U.S.C. § 102(b) as being anticipated by the Wiederhöft patent. With all due respect, the Examiner still has not explained the status of the independent claim over the Wiederhöft patent.

CONCLUSIONS

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

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The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



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